

3. Upon information and belief, TCL Electronics Holdings Limited (“TCL Electronics”) is a limited liability company incorporated in the Cayman Islands. The registered address of the Company is P.O. Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands. The principal place of business of the Company is located at 7th Floor, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, New Territories, Hong Kong. *See* TCL Electronics Holdings Limited Annual Report 2018 (*available at <http://electronics.tcl.com/UserFiles/File/IR/Annual%20Report/2018%20AR-E.pdf>*) at p. 135 of 285. TCL Electronics does business in the State of Texas and in the Eastern District of Texas.

4. Upon information and belief, TCL Corp. was founded in 1981. TCL Corp. is “one of China’s largest business groups of consumer electronics operating in a global scale.” *See* About TCL Page (*available at http://electronics.tcl.com/en/aboutus/main.do?method=listing&mappingName=AboutUs_CompanyProfile*). TCL Corp. owns at least three other companies: TCL Electronics (publicly listed as 01070.HK and co-defendant in this action), China Display Optoelectronics (publicly listed as 00334.HK) and Tonly Electronics (publicly listed 01249.HK). *Id.*

5. Upon information and belief, TCL Corp. holds a controlling interest in TCL Electronics. *See* TCL Electronics Holdings Limited Annual Report 2018, at p.113 of 285 (stating that TCL Corporation is the “ultimate controlling shareholder of the company”). TCL Electronics is “mainly involved in the manufacture and sale of colour television sets, Smart audio-visual (‘Smart AV’) and Smart home products.” *Id.* In May of 2018, TCL Electronics changed its name from “TCL Multimedia Technology Holdings Limited” to “TCL Electronics Holdings Limited.” *Id.* *See* TCL Electronics Holdings Limited Annual Report 2018, at p. 8 of 285.

6. Upon information and belief, TCL Electronics is a part of a related “Group” of companies under the umbrella of TCL Corp., which includes TCL Electronics and its subsidiaries, and that brands itself as the “world’s leading consumer electronics company” that “is engaged in the research and development, manufacturing and sale of consumer electronics products,” which “are sold all over the world.” *See* TCL Electronics Holdings Limited Annual Report 2018, at p. 7 of 285. In 2018, ninety-eight percent (98%) of TCL Electronics’ worldwide gross sales were from the sale of television products. *See id.* at p. 12 of 285. Furthermore, TCL Electronics asserts that “[t]he Group’s major customers are all from consumer television products industry.” *Id.* at p. 94 of 285.

7. Upon information and belief, TCL Electronics, as part of the Group, and TCL Corp., along with its own subsidiaries and associates (separately referred to as the “TCL Group”), have operated as agents of one another and vicariously as two arms of the same business group to work in concert together and enter into agreements that are nearer than arm’s length to conduct business in the United States, including in Texas and this judicial district. *See Trois v. Apple Tree Auction Center, Incorporated*, 882 F.3d 485, 490 (C.A.5 (Tex.), 2018) (“A defendant may be subject to personal jurisdiction because of the activities of its agent within the forum state....”); *see also Cephalon, Inc. v. Watson Pharmaceuticals, Inc.*, 629 F.Supp.2d 338, 348 (D. Del. 2009) (“The agency theory may be applied not only to parents and subsidiaries, but also to companies that are ‘two arms of the same business group,’ operate in concert with each other, and enter into agreements with each other that are nearer than arm's length.”).

8. Upon information and belief, TCL Corp. and TCL Electronics engaged in a concerted effort to sell, offer to sell, and import infringing products. For example in 2018, TCL Electronics carried out a series of “connected transactions” with TCL Corp. in furtherance of its

mutual business interests and goals, including, but not limited to, 1) renewing its “Master TCL Trademark License,” which was exclusive and royalty-free, to use the TCL trademark for “the manufacture, production, sale and distribution of electronic products including televisions, audio-visual products and commercial use display products”; 2) entering into a “Master Sale and Purchase (2017) Agreement” for the purchase of “goods produced or manufactured in the PRC from TCL Group amounting to HK\$12,892,395,000; and... sold goods to TCL Group”; and 3) entering into a “Master Sourcing (2017 Renewal) Agreement” wherein the Group “sold overseas materials to TCL Group amounting to HK\$1,049,403,000; and...purchased overseas materials from TCL Group amounting to HK\$840,166,000 during the year amounting to HK\$5,566,381,000 during the year.” *See* TCL Electronics Holdings Limited Annual Report 2018, at pp. 109-113 of 285.

JURISDICTION AND VENUE

9. This action arises under the patent laws of the United States, namely 35 U.S.C. §§ 271, 281, and 284-285, among others.

10. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

11. Upon information and belief, TCL Corp. is subject to this Court’s specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial business in this State and judicial district, including: (A) at least part of its own infringing activities alleged herein; and (B) regularly doing or soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported and services provided to Texas residents vicariously through and/or in concert with its subsidiaries, intermediaries, and/or agents.

12. This Court has personal jurisdiction over TCL Corp., directly or through intermediaries, such as TCL Electronics and TCL Electronics' wholly-owned U.S.-based subsidiary TTE Technology Inc. ("TTE"), because TCL Corp. has committed acts of direct and/or indirect patent infringement within Texas, and elsewhere within the United States giving rise to this action and/or has established minimum contacts with Texas such that personal jurisdiction over TCL would not offend traditional notions of fair play and substantial justice. For example, TCL Corp. has placed and continues to place into the stream of commerce using established distribution channels infringing products with the knowledge and understanding that such products are, will be, and continue to be sold, offered for sale, and/or imported into this judicial district and the State of Texas. For example, TCL Corp. touts that it has "employees through Asia, the Americas, Europe and Oceania" and has a "Sales Network" that spans "Regional Business Centers" in North America. TCL products, including for example TCL TFT-LCD model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04, are or have been widely sold in retail stores, both brick and mortar and online, within this judicial district and in Texas. *See Litecubes, LLC v. Northern Light Products, Inc.*, 523 F.3d 1353, 1369-70 (Fed. Cir. 2008) ("[T]he sale [for purposes of § 271] occurred at the location of the buyer."); *see also Semcon IP Inc. v. Kyocera Corporation*, No. 2:18-cv-00197-JRG, 2019 WL 1979930, at *3 (E.D. Tex. May 3, 2019) (denying accused infringer's motion to dismiss because plaintiff sufficiently plead that purchases of infringing products outside of the United States for importation into and sales to end users in the U.S. may constitute an offer to sell under § 271(a)).

13. Upon information and belief, TCL Corp. controls its subsidiaries and intermediaries, including, but not limited to TCL Electronics and TTE. These subsidiaries give

TCL Corp. substantially the business advantages that it would have enjoyed if it conducted its business through its own offices or paid agents in the state of Texas.

14. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 because, among other things, TCL Corp. is not a resident in the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3). *See also In re HTC Corporation*, 889 F.3d 1349, 1357 (Fed. Cir. 2018) (“The Court’s recent decision in *TC Heartland* does not alter” the alien-venue rule.).

15. Upon information and belief, TCL Electronics is also subject to this Court’s specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial business in this State and judicial district, including: (A) at least part of its own infringing activities alleged herein; and (B) regularly doing or soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported and services provided to Texas residents vicariously through and/or in concert with its subsidiaries, intermediaries, and/or agents.

16. This Court has personal jurisdiction over TCL Electronics, directly or through intermediaries and subsidiaries including, but not limited to, its U.S.-based subsidiary TTE, because TCL Electronics has committed acts within Texas giving rise to this action and/or has established minimum contacts with Texas such that personal jurisdiction over TCL would not offend traditional notions of fair play and substantial justice. For example, via its wholly-owned subsidiary TTE, TCL Electronics asserts the following:

We are America’s Fastest-Growing TV Brand. As a globally trusted leader, TCL sold more than 20 million TVs worldwide last year [in 2017] which ranks us among the largest TV brands in the world.

See Our Story (available at <https://www.tclusa.com/about-us/our-story>). These TCL products include for example TCL TFT-LCD model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04, which are or have been widely sold in retail stores, both brick and mortar and online, within this judicial district and in Texas. Through the websites electronics.tcl.com and www.tclusa.com, TCL Electronics and its subsidiary TTE have jointly maintained a web presence that consumers would perceive as jointly and vicariously being engaged in acts of infringement. Indeed, there is no meaningful way for a customer to separate TCL Corp., TCL Electronics, and TTE in a meaningful way, which would make the exercise of specific jurisdiction fair and reasonable. *See, e.g., Godo Kaisha IP Bridge 1 v. Broadcom Limited*, 2017 WL 970383, at *7 (E.D. Tex. 2017) (finding that it would not be improper to exercise specific jurisdiction over a foreign holding corporation based on the “web presence ... in which there is no meaningful way for a customer to determine if Defendants are truly separate and apart from their domestic subsidiaries (partly because they identified and advertised themselves interchangeably or as related entities on their websites)”).

17. Upon information and belief, the U.S.-based entity TTE is “an entity...directly or indirectly, controlled by” TCL Electronics, as well as other subsidiaries. *See* TCL Electronics Holdings Limited Annual Report 2018, at p. 139 of 285. According to TCL Electronics, such control over TTE means that the “Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee (i.e. existing rights that give the Group the current ability to direct the relevant activities of the investee).” *Id.* The business TTE, among other subsidiaries or intermediaries, conducts in the U.S. gives TCL Electronics substantially the business advantages that it would have enjoyed if it conducted its business through its own offices or paid agents in this judicial district and in the

state of Texas. Through their statements on their websites and through the conduct of TTE in the United States, TCL Corp. and TCL Electronics have each demonstrated an intent to serve the U.S. market, including the Texas market in this judicial district. *See, e.g., 3G Licensing, S.A. v. HTC Corporation*, 2017 WL 6442101, at *3 (D. Del. 2017). (finding that the preconditions for personal jurisdiction were met based on certain statements made by a foreign defendant in its Annual Report that it “maintains a presence in all key markets, including the United States” and its “products are distributed across ... America[] ... through major carriers and local retail channels”).

18. Upon information and belief, TCL Electronics has placed and continues to place infringing thin-film transistor – liquid crystal display (“TFT-LCD”) panels into the stream of commerce via an established distribution channel with the knowledge and/or intent that those products were sold and continue to be sold in the United States and Texas, including in this judicial district. In 2018, TCL Electronics reported 45,582 HK\$ Million (approx. 5.8 billion U.S. dollars) in global gross sales. *See TCL Electronics Holdings Limited Annual Report 2018* at p. 12 of 285. Gross sales in the North America were reported at 10,232,343,000 (approx. 1.3 billion U.S. dollars).

19. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 because, among other things, TCL Electronics is not a resident in the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3).

20. Upon information and belief, TCL has significant ties to, and presence in, the State of Texas and the Eastern District of Texas, making venue in this judicial district both proper and convenient for this action.

THE ASSERTED PATENTS AND TECHNOLOGY

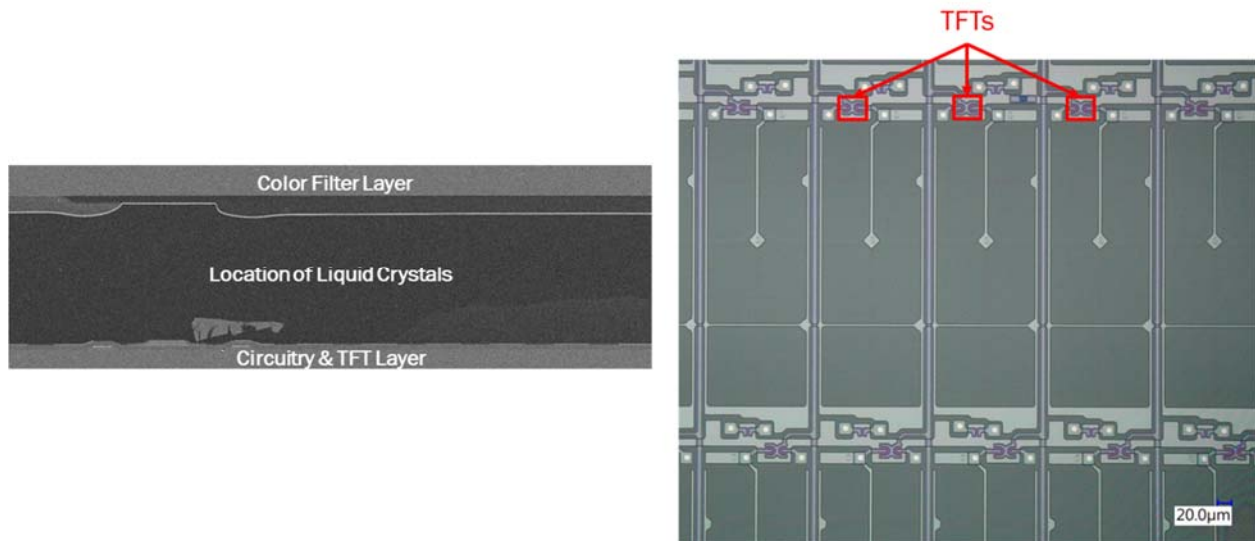
21. Upon information and belief, a significant portion of operating revenue of TCL is derived from the manufacture and sale of TFT-LCD flat panel displays, and TCL's main commodities include medium-to-large-sized TFT-LCD related products. *See* Home Theater Page (*available at* <https://www.tclusa.com/catalog/home-theater>). In a 2019 press release, TCL asserts that its LCD TV sales “[m]aintained strong growth momentum, with sales volume rocketed by 112.0% year-on-year... in the first quarter of 2019, TCL was among the top two in North American markets by sales volume for six consecutive weeks, during which climbing up to No. 1 for three weeks.” 2019 1st Quarter Press Release, April 23, 2019 (*available at* http://electronics.tcl.com/UserFiles/File/IR/Press%20Releases/2019/ENG_TCL_2019Q1_Press%20Release_20190423_Final_Clean.pdf).

22. The Asserted Patents cover TCL's TFT-LCDs, their components, and processes related to the same. An example of a TCL TFT-LCD is model no. LVF430ND1L CJ9W04, which is used in end-user products such as TCL Class 3-Series FHD LED Roku Smart TV – 43S305. Another example of a TCL TFT-LCD is model no. LVW320ND1L CJ9W23, which is used in end-user products such as the TCL Class 3-Series HD LED Roku Smart TV – 32S305. Model no. LVF430ND1L CJ9W04 and the label for the TCL TFT-LCD panel are shown below:





23. Typically, a TFT-LCD has the following structure shown below, comprising of a backlight, a TFT/circuitry layer, a liquid crystal layer, and a color filter:

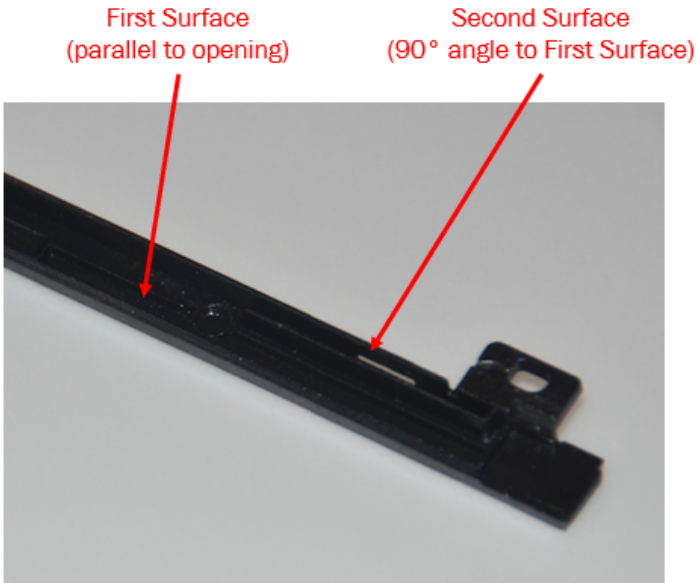


24. As shown above, the TFT-LCD panel contains a backlight unit. Teardown images below from model no. LVF430ND1L CJ9W04 show its backlight unit and frame.





Top View - frame on optical unit

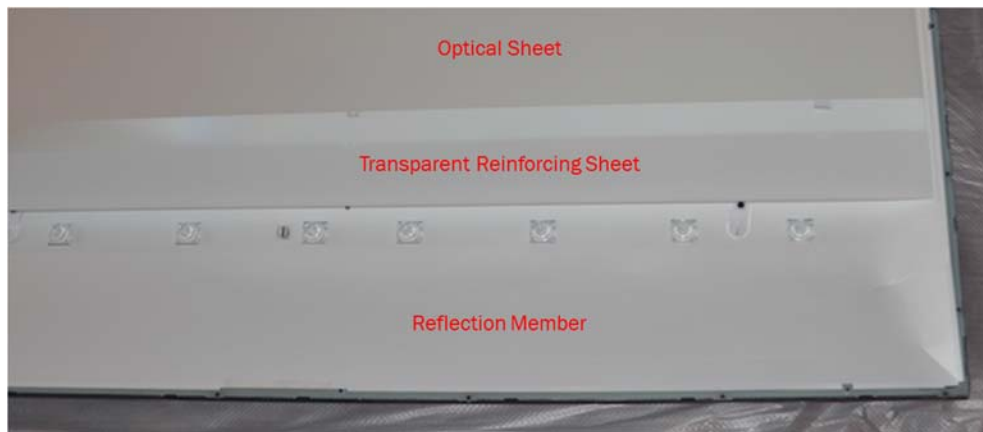
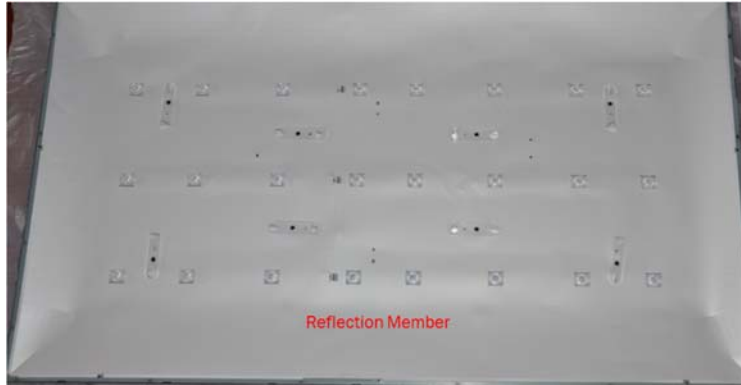


Bottom View - part of frame only - upside down

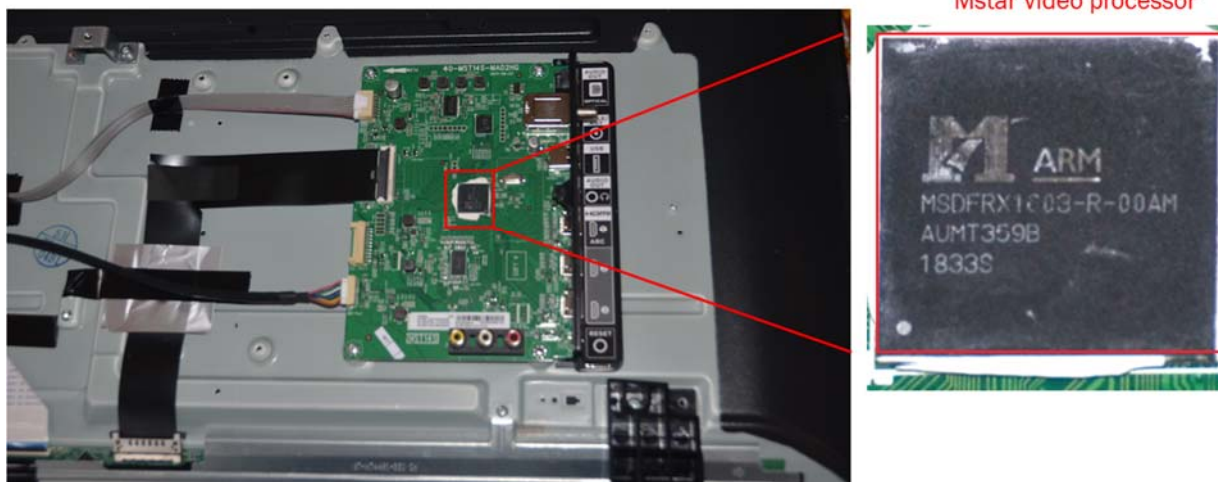
25. A TFT-LCD panel's backlight module contains many components. The images and illustration below show, for example, an illustrative cross-sectional diagram of the TCL TFT-LCD and a part of the backlight unit's frame. The LED backlight has a conductive plate positioned in the opening of the frame, which has surfaces adjacent to the two frame surfaces. The LED backlight also has a light reflective sheet fastened to the second surface of the frame and covers at least a portion of the second surface of the frame and light conductive plate. The diffusion sheet and the light reflective sheet cooperate to fasten the light conductive plate within the frame.



26. The backlight unit also has a transparent reinforcing plate in contact with an optical sheet. The backlight unit has a reflection member that reflects the light emitted from the light source and through the transparent reinforcing plate and optical sheet. The light source is arranged between the reinforcing plate and the reflecting member.



27. Model no. LVF430ND1L CJ9W04 has a series chip (the Mstar MSD3553), which includes the MStarACE6 Video Processor.



28. The TCL model no. LVF430ND1L CJ9W04 has a driving circuit for its LCD panel in the video processor chip. Upon information and belief, the MSD3553 Series Chip shown and described below is expected to have features and components similar to (or identical to) other MSD3553 Series chips, including the MStarACE Video Processor.



Mstar
semiconductor

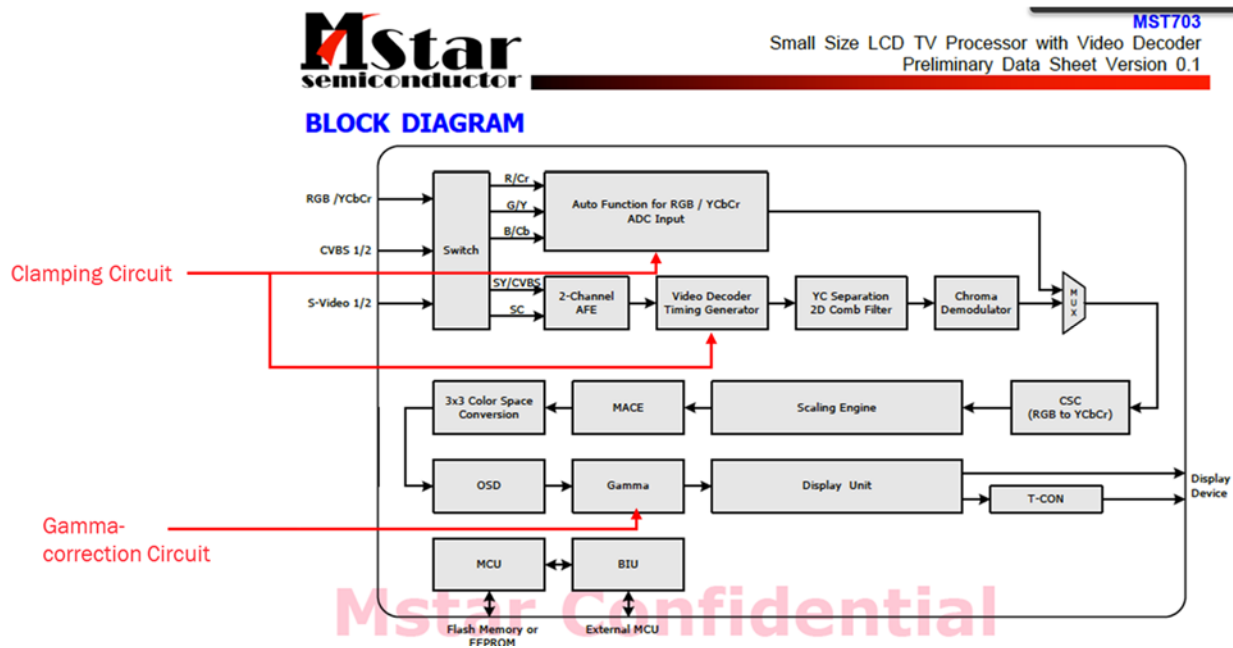
Attention Please: Under the technology license agreement be provide samples that incorporate Dolby/DTS/Microsoft techr Dolby/DTS/Microsoft respectively.

FEATURES

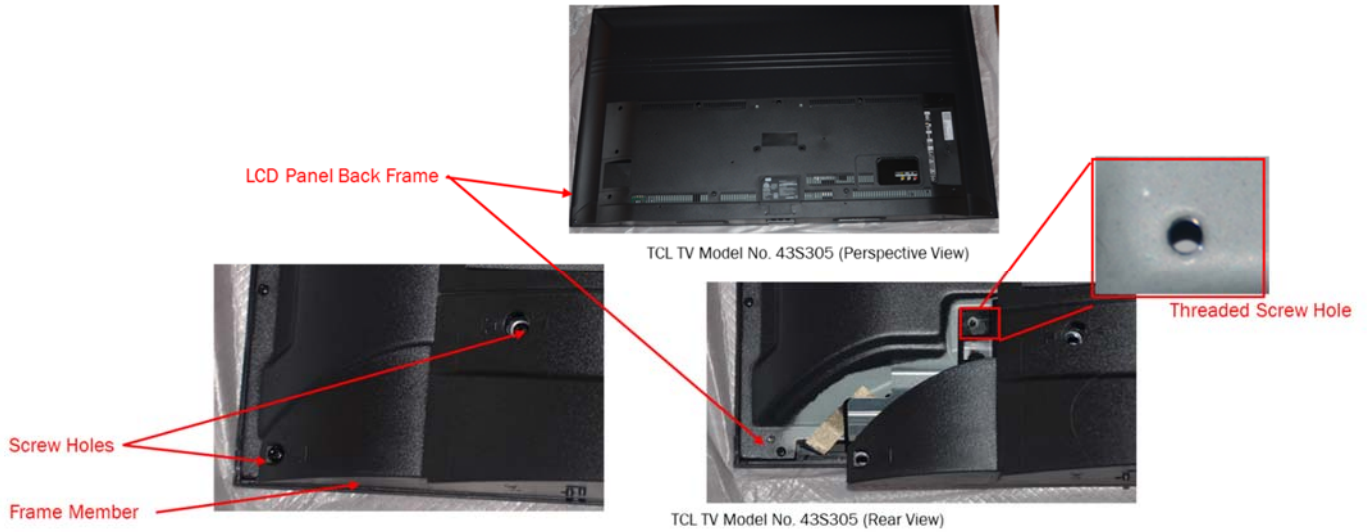
MSD3553NUC is a highly integrated single chip solution for digital ATSC TV system. Key features include:

1. Digital and Analog TV Front-End Demodulator
2. Multi-Standard A/V Format Decoder
3. The MStarACE6^{JK} Video Processor
4. Home Theater Sound Processor
5. Embedded Memory for optimized BOM cost
6. Multiple HDMI 1.4 Compliant Ports with ARC Support
7. One MHL 2.0 Compliant Port

29. The TCL model no. LVF430ND1L CJ9W04 has a clamping circuit for its LCD panel in the video processor chip. The clamping circuit has gamma-correction circuits connected to the clamp units. The clamping circuit and gamma-correction circuit are shown below in the data sheet for the MST703 video processor, which is a predecessor to the ACE6 video processor. The ACE6 video processor is expected to have similar (or identical components) to its predecessor.



30. The TCL model no. LVF430ND1L CJ9W04 also has an LCD panel with a back frame (shown in the images below) allowing it to be mounted to a frame member and has a threaded screw hole aligned with the hole in the frame member.



COUNT I

(INFRINGEMENT OF U.S. PATENT NO. 7,593,070)

31. Plaintiff incorporates paragraphs 1 through 30 herein by reference.

32. VPV is the assignee of the '070 patent, entitled "Optical unit and LCD device using the optical unit," with ownership of all substantial rights in the '070 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

33. The '070 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '070 patent issued from U.S. Patent Application No. 11/984,403.

34. TCL has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '070 patent in this judicial district and elsewhere in Texas and the United States.

35. Upon information and belief, TCL “is engaged in the research and development, manufacturing and distribution of consumer electronic products,” which includes “Smart TVs” incorporating TFT-LCD technology. *See* 2019 1st Quarter Press Release, April 23, 2019.

36. TCL directly infringes the '070 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those TFT-LCD panels, their components, and/or products containing same that incorporate the fundamental technologies covered by the '070 patent, or by having its controlled subsidiaries, intermediaries, and/or agents do the same. Furthermore, upon information and belief, TCL sells and makes TFT-LCD panels outside of the United States, intending and/or knowing that those panels are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '070 patent.

37. For example, TCL infringes claim 1 of the '070 patent via its LCD panel model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04. That product includes a “optical unit, comprising” each of the limitations of claim 1. The technology discussion above and the example accused TFT-LCD panel (model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04) provide context for Plaintiff’s allegations that each of those limitations are met. For example, model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04 include a frame surrounding an opening, the frame having a first surface and a second surface, placed directly across from the first surface of the frame; a light conductive plate positioned in the opening of the frame, the light conductive plate having a first surface adjacent the first surface of the frame and a second surface adjacent the second surface of the frame; a diffusion sheet fastened to the first surface of the frame in a manner to cover at least a portion of the first surface of the frame and to cover the first surface of the light conductive plate; and a light reflective sheet fastened to the second surface of the frame in a manner to cover at least a portion of the second surface of the frame and to cover the second

surface of the light conductive plate, wherein the diffusion sheet and the light reflective sheet cooperate to fasten the light conductive plate within the frame.

38. TCL further infringes the '070 patent via 35 U.S.C. § 271(g) by selling, offering to sell, and/or importing TFT-LCD panels, their components, and/or products containing same, that are made by a process covered by the '070 patent. Upon information and belief, the infringing TFT-LCD panels, their components, and/or products containing same are not materially changed by subsequent processes, and they are neither trivial nor nonessential components of another product.

39. At a minimum, TCL has known of the '070 patent at least as early as the filing date of the complaint.

40. Upon information and belief, since at least the above-mentioned date when TCL was on notice of its infringement, TCL has actively induced, under U.S.C. § 271(b), distributors, importers and/or consumers that purchase or sell TFT-LCD panels that include or are made using all of the limitations of one or more claims of the '070 patent to directly infringe one or more claims of the '070 patent by using, offering for sale, selling, and/or importing the TFT-LCD panels. Since at least the notice provided on the above-mentioned date, TCL does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '070 patent. Upon information and belief, TCL intends to cause, and has taken affirmative steps to induce, infringement by the distributors, importers, and/or consumers by, *inter alia*, creating advertisements that promote the infringing use of the TFT-LCD panels, creating established distribution channels for the TFT-LCD panels into and within the United States, manufacturing the TFT-LCD panels in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers,

and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. *See, e.g.*, TCL Electronics Holdings Limited Annual Report 2018, at p.16 of 285 (“The Group’s sales volume in overseas markets for the year of 2018 reached 18.21 million sets, a year-on-year increase of 29.5%, of which the North American market made significant breakthrough.”).

41. Upon information and belief, despite having knowledge of the ’070 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the ’070 patent, TCL has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. TCL’s infringing activities relative to the ’070 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

42. VPV has been damaged as a result of TCL’s infringing conduct described in this Count. TCL is, thus, liable to VPV in an amount that adequately compensates VPV for TCL’s infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II

(INFRINGEMENT OF U.S. PATENT NO. 6,513,943)

43. Plaintiff incorporates paragraphs 1 through 42 herein by reference.

44. VPV is the assignee of the ’943 patent, entitled “Backlight unit and display device using the same backlight unit,” with ownership of all substantial rights in the ’943 patent,

including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

45. The '943 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '943 patent issued from U.S. Patent Application No. 09/810,542.

46. TCL has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '943 patent in this judicial district and elsewhere in Texas and the United States.

47. Upon information and belief, TCL "is engaged in the research and development, manufacturing and distribution of consumer electronic products," which includes "Smart TVs" incorporating TFT-LCD technology. *See* 2019 1st Quarter Press Release, April 23, 2019.

48. TCL directly infringes the '943 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those TFT-LCD panels, their components, and/or products containing same that incorporate the fundamental technologies covered by the '943 patent, or by having its controlled subsidiaries, intermediaries, and/or agents do the same. Furthermore, upon information and belief, TCL sells and makes TFT-LCD panels outside of the United States, intending and/or knowing that those panels are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '943 patent.

49. For example, TCL infringes claim 1 of the '943 patent via its LCD panel model nos. LVF430ND1L CJ9W04 and LVW320ND1L CJ9W23. Those products include a "backlight unit, comprising" each of the limitations of claim 1. The technology discussion above and the example accused TFT-LCD panel (model nos. LVF430ND1L CJ9W04 and LVW320ND1L CJ9W23) provide context for Plaintiff's allegations that each of those limitations are met. For

example, model nos. LVF430ND1L CJ9W04 and LVW320ND1L CJ9W23 include a light source; an optical sheet for transmitting light from said light source and giving an optical change to the light; a transparent reinforcing plate in intimate contact with a major surface of said optical sheet; and a reflection member for reflecting the light emitted from said light source to said transparent reinforcing plate such that the light from said light source passed through said transparent reinforcing plate passes through said optical sheet, wherein said light source is arranged immediately below said reinforcing place and between said reflecting member and said reinforcing plate.

50. TCL further infringes the '943 patent via 35 U.S.C. § 271(g) by selling, offering to sell, and/or importing TFT-LCD panels, their components, and/or products containing same, that are made by a process covered by the '943 patent. Upon information and belief, the infringing TFT-LCD panels, their components, and/or products containing same are not materially changed by subsequent processes, and they are neither trivial nor nonessential components of another product.

51. At a minimum, TCL has known of the '943 patent at least as early as the filing date of the complaint.

52. Upon information and belief, since at least the above-mentioned date when TCL was on notice of its infringement, TCL has actively induced, under U.S.C. § 271(b), distributors, importers and/or consumers that purchase or sell TFT-LCD panels that include or are made using all of the limitations of one or more claims of the '943 patent to directly infringe one or more claims of the '943 patent by using, offering for sale, selling, and/or importing the TFT-LCD panels. Since at least the notice provided on the above-mentioned date, TCL does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of

the '943 patent. Upon information and belief, TCL intends to cause, and has taken affirmative steps to induce, infringement by the distributors, importers, and/or consumers by, *inter alia*, creating advertisements that promote the infringing use of the TFT-LCD panels, creating established distribution channels for the TFT-LCD panels into and within the United States, manufacturing the TFT-LCD panels in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. *See, e.g.*, TCL Electronics Holdings Limited Annual Report 2018, at p.16 of 285 (“The Group’s sales volume in overseas markets for the year of 2018 reached 18.21 million sets, a year-on-year increase of 29.5%, of which the North American market made significant breakthrough.”).

53. Upon information and belief, despite having knowledge of the '943 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '943 patent, TCL has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. TCL’s infringing activities relative to the '943 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

54. VPV has been damaged as a result of TCL’s infringing conduct described in this Count. TCL is, thus, liable to VPV in an amount that adequately compensates VPV for TCL’s infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III

(INFRINGEMENT OF U.S. PATENT NO. 7,006,065)

55. Plaintiff incorporates paragraphs 1 through 54 herein by reference.

56. VPV is the assignee of the '065 patent, entitled "Gamma compensation method and circuit for color liquid crystal display," with ownership of all substantial rights in the '065 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

57. The '065 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '065 patent issued from U.S. Patent Application No. 09/707,816.

58. TCL has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '065 patent in this judicial district and elsewhere in Texas and the United States.

59. Upon information and belief, TCL "is engaged in the research and development, manufacturing and distribution of consumer electronic products," which includes "Smart TVs" incorporating TFT-LCD technology. *See* 2019 1st Quarter Press Release, April 23, 2019.

60. TCL directly infringes the '065 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those TFT-LCD panels, their components, and/or products containing same that incorporate the fundamental technologies covered by the '065 patent, or by having its controlled subsidiaries, intermediaries, and/or agents do the same. Furthermore, upon information and belief, TCL sells and makes TFT-LCD panels outside of the United States, intending and/or knowing that those panels are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '065 patent.

61. For example, TCL infringes claim 1 of the '065 patent via its LCD panel model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04. Those products include a “driving circuit for a color liquid crystal display comprising” each of the limitations of claim 9. The technology discussion above and the example accused TFT-LCD panel (model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04) provide context for Plaintiff’s allegations that each of those limitations are met. For example, model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04 include a first gamma compensating circuit for applying a gamma compensation only to a red video signal so as to be suitable only for a red transmittance characteristic for an independently applied voltage in said color liquid crystal display and for outputting only a compensated red video signal; a second gamma compensating circuit for applying a gamma compensation only to a green video signal so as to be suitable only for a green transmittance characteristic for an independently applied voltage in said color liquid crystal display and for outputting only a compensated green video signal; a third gamma compensating circuit for applying a gamma compensation only to a blue video signal so as to be suitable only for a blue transmittance characteristic for an independently applied voltage of said color liquid crystal display and for outputting only a compensated blue video signal; a reference voltage generating circuit for supplying respectively independently generated reference voltages to said first gamma compensating circuit, said second gamma compensating circuit and said third gamma compensating circuit; and a data electrode driving circuit for driving corresponding electrodes of said color liquid crystal display based on said compensated red video signal, said compensated green video signal and said compensated blue video signal, wherein said reference voltages are generated to provide optimum gamma compensation based on the luminosity characteristics of each color.

62. TCL further infringes the '065 patent via 35 U.S.C. § 271(g) by selling, offering to sell, and/or importing TFT-LCD panels, their components, and/or products containing same, that are made by a process covered by the '065 patent. Upon information and belief, the infringing TFT-LCD panels, their components, and/or products containing same are not materially changed by subsequent processes, and they are neither trivial nor nonessential components of another product.

63. At a minimum, TCL has known of the '065 patent at least as early as the filing date of the complaint. In addition, TCL has known of the '065 patent since at least February 17, 2018, when TCL was provided notice that it was required to take a license to a number of patents, including the '065 patent.

64. Upon information and belief, since at least the above-mentioned date when TCL was on notice of its infringement, TCL has actively induced, under U.S.C. § 271(b), distributors, importers and/or consumers that purchase or sell TFT-LCD panels that include or are made using all of the limitations of one or more claims of the '065 patent to directly infringe one or more claims of the '065 patent by using, offering for sale, selling, and/or importing the TFT-LCD panels. Since at least the notice provided on the above-mentioned date, TCL does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '065 patent. Upon information and belief, TCL intends to cause, and has taken affirmative steps to induce, infringement by the distributors, importers, and/or consumers by, *inter alia*, creating advertisements that promote the infringing use of the TFT-LCD panels, creating established distribution channels for the TFT-LCD panels into and within the United States, manufacturing the TFT-LCD panels in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers,

and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. *See, e.g.*, TCL Electronics Holdings Limited Annual Report 2018, at p.16 of 285 (“The Group’s sales volume in overseas markets for the year of 2018 reached 18.21 million sets, a year-on-year increase of 29.5%, of which the North American market made significant breakthrough.”).

65. Upon information and belief, despite having knowledge of the ’065 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the ’065 patent, TCL has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. TCL’s infringing activities relative to the ’065 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

66. VPV has been damaged as a result of TCL’s infringing conduct described in this Count. TCL is, thus, liable to VPV in an amount that adequately compensates VPV for TCL’s infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV

(INFRINGEMENT OF U.S. PATENT NO. 6,657,619)

67. Plaintiff incorporates paragraphs 1 through 66 herein by reference.

68. VPV is the assignee of the ’619 patent, entitled “Clamping circuit for liquid crystal display device,” with ownership of all substantial rights in the ’619 patent, including

the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

69. The '619 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '619 patent issued from U.S. Patent Application No. 09/602,182.

70. TCL has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '619 patent in this judicial district and elsewhere in Texas and the United States.

71. Upon information and belief, TCL "is engaged in the research and development, manufacturing and distribution of consumer electronic products," which includes "Smart TVs" incorporating TFT-LCD technology. *See* 2019 1st Quarter Press Release, April 23, 2019.

72. TCL directly infringes the '619 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those TFT-LCD panels, their components, and/or products containing same that incorporate the fundamental technologies covered by the '619 patent, or by having its controlled subsidiaries, intermediaries, and/or agents do the same. Furthermore, upon information and belief, TCL sells and makes TFT-LCD panels outside of the United States, intending and/or knowing that those panels are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '619 patent.

73. For example, TCL infringes claim 1 of the '619 patent via its LCD panel model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04. Those products include a "clamping circuit for a liquid crystal display device comprising" each of the limitations of claim 1. The technology discussion above and the example accused TFT-LCD panel (model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04) provide context for Plaintiff's allegations

that each of those limitations are met. For example, model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04 include a plurality of clamp units for receiving a plurality of input color signals of an input picture signal after deleting a DC bias from each of said input color signals to produce a plurality of clamped color signals, respectively, by adding a predetermined clamping voltage corresponding to a pedestal level of said input picture signal to each of said input color signals; and a plurality of gamma-correction circuits connected to said clamp units for receiving said clamped color signals, respectively, and for performing a predetermined gamma correction and amplification on each of said clamped color signals to produce output color signals, respectively; each of said clamp units being provided with a clamping portion for receiving said input color signal and a clamping voltage generating circuit for supplying a clamping voltage to said clamping portion so as to be controlled in response to an individual first control signal supplied thereto and generates said clamped color signal such that a black level of said clamped color signal coincides with a black level in an input/output characteristic of said gamma-correction circuit, and said clamping portion being supplied with said clamping voltage so as to add said clamping voltage to said pedestal level in a predetermined timing of said input color signal in response to a second control signal supplied thereto.

74. TCL further infringes the '619 patent via 35 U.S.C. § 271(g) by selling, offering to sell, and/or importing TFT-LCD panels, their components, and/or products containing same, that are made by a process covered by the '619 patent. Upon information and belief, the infringing TFT-LCD panels, their components, and/or products containing same are not materially changed by subsequent processes, and they are neither trivial nor nonessential components of another product.

75. At a minimum, TCL has known of the '619 patent at least as early as the filing date of the complaint. In addition, TCL has known of the '619 patent since at least February 17, 2018, when TCL was provided notice that it was required to take a license to a number of patents, including the '619 patent.

76. Upon information and belief, since at least the above-mentioned date when TCL was on notice of its infringement, TCL has actively induced, under U.S.C. § 271(b), distributors, importers and/or consumers that purchase or sell TFT-LCD panels that include or are made using all of the limitations of one or more claims of the '619 patent to directly infringe one or more claims of the '619 patent by using, offering for sale, selling, and/or importing the TFT-LCD panels. Since at least the notice provided on the above-mentioned date, TCL does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '619 patent. Upon information and belief, TCL intends to cause, and has taken affirmative steps to induce, infringement by the distributors, importers, and/or consumers by, *inter alia*, creating advertisements that promote the infringing use of the TFT-LCD panels, creating established distribution channels for the TFT-LCD panels into and within the United States, manufacturing the TFT-LCD panels in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. *See, e.g.*, TCL Electronics Holdings Limited Annual Report 2018, at p.16 of 285 (“The Group’s sales volume in overseas markets for the year of 2018 reached 18.21 million sets, a year-on-year increase of 29.5%, of which the North American market made significant breakthrough.”).

77. Upon information and belief, despite having knowledge of the '619 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '619 patent, TCL has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. TCL's infringing activities relative to the '619 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

78. VPV has been damaged as a result of TCL's infringing conduct described in this Count. TCL is, thus, liable to VPV in an amount that adequately compensates VPV for TCL's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT V

(INFRINGEMENT OF U.S. PATENT NO. 6,594,143)

79. Plaintiff incorporates paragraphs 1 through 78 herein by reference.

80. VPV is the assignee of the '143 patent, entitled "Liquid crystal module mounting structure and mobile terminal mounted with the same," with ownership of all substantial rights in the '143 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

81. The '143 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '143 patent issued from U.S. Patent Application No. 09/459,280.

82. TCL has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '143 patent in this judicial district and elsewhere in Texas and the United States.

83. Upon information and belief, TCL "is engaged in the research and development, manufacturing and distribution of consumer electronic products," which includes "Smart TVs" incorporating TFT-LCD technology. *See* 2019 1st Quarter Press Release, April 23, 2019.

84. TCL directly infringes the '143 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those TFT-LCD panels, their components, and/or products containing same that incorporate the fundamental technologies covered by the '143 patent, or by having its controlled subsidiaries, intermediaries, and/or agents do the same. Furthermore, upon information and belief, TCL sells and makes TFT-LCD panels outside of the United States, intending and/or knowing that those panels are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '143 patent.

85. For example, TCL infringes claim 1 of the '143 patent via its LCD panel model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04. Those products include an "electric apparatus, comprising" each of the limitations of claim 1. The technology discussion above and the example accused TFT-LCD panel (model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04) provide context for Plaintiff's allegations that each of those limitations are met. For example, model nos. LVW320ND1L CJ9W23 and LVF430ND1L CJ9W04 include a frame member having at least one hole in a first predetermined location through which a screw can pass from a back side thereof; a liquid crystal module having a liquid crystal display panel as a front display area and having a back frame allowing said liquid crystal display module to be mounted to said frame member, said back frame including at least one threaded screw hole in a second

predetermined location corresponding to said first predetermined location; and at least one screw to fix said liquid crystal module to said frame member by passing through said at least one hole in said frame member from the back side thereof and screwing into said threaded screw hole on said back frame of said liquid crystal module.

86. TCL further infringes the '143 patent via 35 U.S.C. § 271(g) by selling, offering to sell, and/or importing TFT-LCD panels, their components, and/or products containing same, that are made by a process covered by the '143 patent. Upon information and belief, the infringing TFT-LCD panels, their components, and/or products containing same are not materially changed by subsequent processes, and they are neither trivial nor nonessential components of another product.

87. At a minimum, TCL has known of the '143 patent at least as early as the filing date of the complaint. In addition, TCL has known of the '143 patent since at least February 17, 2018, when TCL was provided notice that it was required to take a license to a number of patents, including the '143 patent.

88. Upon information and belief, since at least the above-mentioned date when TCL was on notice of its infringement, TCL has actively induced, under U.S.C. § 271(b), distributors, importers and/or consumers that purchase or sell TFT-LCD panels that include or are made using all of the limitations of one or more claims of the '143 patent to directly infringe one or more claims of the '143 patent by using, offering for sale, selling, and/or importing the TFT-LCD panels. Since at least the notice provided on the above-mentioned date, TCL does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '143 patent. Upon information and belief, TCL intends to cause, and has taken affirmative steps to induce, infringement by the distributors, importers, and/or consumers by, *inter alia*,

creating advertisements that promote the infringing use of the TFT-LCD panels, creating established distribution channels for the TFT-LCD panels into and within the United States, manufacturing the TFT-LCD panels in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States. *See, e.g.*, TCL Electronics Holdings Limited Annual Report 2018, at p.16 of 285 (“The Group’s sales volume in overseas markets for the year of 2018 reached 18.21 million sets, a year-on-year increase of 29.5%, of which the North American market made significant breakthrough.”).

89. Upon information and belief, despite having knowledge of the ’143 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the ’143 patent, TCL has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. TCL’s infringing activities relative to the ’143 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

90. VPV has been damaged as a result of TCL’s infringing conduct described in this Count. TCL is, thus, liable to VPV in an amount that adequately compensates VPV for TCL’s infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

INJUNCTIVE RELIEF

91. Plaintiff seeks preliminary and permanent injunctions as a result of TCL's infringement of the Asserted Patents. Plaintiff is likely to succeed in showing that TCL infringes the Asserted Patents. Because of that infringement, Plaintiff has suffered an irreparable injury, and the remedies available at law, such as monetary damages, are inadequate to compensate for that injury. For example, if Plaintiff must enforce a judgment against TCL in China, Hong Kong, and/or the Cayman Islands, Plaintiff will face a historically challenging burden in persuading courts in these jurisdictions to enforce a judgment from a U.S. court, likely preventing Plaintiff from obtaining any monetary damages from TCL. Considering the balance of hardships between the Plaintiff and TCL, a remedy in equity is warranted; and the public interest would not be disserved by a permanent or preliminary injunction.

CONCLUSION

92. Plaintiff is entitled to recover from TCL the damages sustained by Plaintiff as a result of TCL's wrongful acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

93. Plaintiff has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute may give rise to an exceptional case within the meaning of 35 U.S.C. § 285, and Plaintiff is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

JURY DEMAND

94. Plaintiff hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

95. Plaintiff respectfully requests that the Court find in its favor and against TCL, and that the Court grant Plaintiff the following relief:

1. A judgment that TCL has infringed the Asserted Patents as alleged herein, directly and/or indirectly by way of inducing infringement of such patents;
2. A judgment for an accounting of all damages sustained by Plaintiff as a result of the acts of infringement by TCL;
3. A preliminary and permanent injunction against TCL, its subsidiaries, or anyone acting on its behalf from making, using, selling, offering to sell, or importing any products that infringe the Asserted Patents, and any other injunctive relief the Court deems just and equitable;
4. A judgment and order requiring TCL to pay Plaintiff damages under 35 U.S.C. § 284, including up to treble damages as provided by 35 U.S.C. § 284, and any royalties determined to be appropriate;
5. A judgment and order requiring TCL to pay Plaintiff pre-judgment and post-judgment interest on the damages awarded;
6. A judgment and order finding this to be an exceptional case and requiring TCL to pay the costs of this action (including all disbursements) and attorneys' fees as provided by 35 U.S.C. § 285; and
7. Such other and further relief as the Court deems just and equitable.

Dated: May 23, 2019

Respectfully submitted,

/s/Patrick J. Conroy w/permission Claire A. Henry

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